ABSTRACT

BOOTSTRAP SEMIPARAMETRIC REGRESSION MODELLING TO ESTIMATE DETERMINANTS THE OUTBREAKS OF DIPHTHERI CASE IN EAST JAVA

Diphtheria is a disease caused by the bacteria Corynebacterium Diphtheria. Provincial Government of East Java revealed diphtheria case is the outbreaks in East Java on October 2011 to 2012 Determination of the status of this case do given the outbreak has spread in almost all districts/cities in East Java. In the regression analysis, there are three approaches namely parametric regression, nonparametric regression and semiparametric regression. To analyze the factors affecting outbreaks of diphtheria used semiparametric regression because there are combined data from the parametric and nonparametric. The purpose of study is to analyzes models of factors affecting the outbreaks diphtheria. The type of reseach used an applied research and the analyze used bootstrap semiparametric regression analysis. Independent variables were the residential density, the healthy home, population density, exclusive breastfeeding, immunization status, and Human Resources versus target immunization. Semiparametric regression bootstrap analysis was performed 50 times and 100 times repetition. Analyzes were carried out in terms of multiple liniear regression analysis, semiparametric regression analysis, and bootstrap semiparamteric regression analysis to determine the influencing factors. The result of the study were three variables that affect the incidence of diphtheria in the bootstrap semiparametric regression analysis was performed 50 times repetition are the residential density (p = 0.00001), the healthy home (p velue 0.0034) and population density (p value 0.0013). The results of the bootstrap semiparametric regression analysis was performed 100 times repetition are the residential density (p = 0.00001), the healthy home (p velue 0.0029) and population density (p value 0.0009).

Keyword: Diphtheria, Semiparametric Regression, Bootstrap